CSUSB Bridges to Stem Cell Research

Grant Award Details

CSUSB Bridges to Stem Cell Research

Grant Type: Bridges

Grant Number: TB1-01185

Project Objective: The Bridges Program provides in classroom coursework and labwork coupled with an internship in a stem cell-focused lab [usually off campus] to students predominantly in the Cal State System or similar institutions.

Investigator:

Name:	Nicole Bournias-Vardiabasis
Institution:	Cal State Univ, San Bernadino
Type:	PI

Award Value: $2,796,412

Status: Active

Grant Application Details

Application Title: Bridges to Stem Cell Research

Public Abstract: Our Bridges to Stem Cell Research program will have 7 components: 1) Partnership with two local community colleges to diversify the potential population of interns, 2) Internships at three host institutions, one a public research university, one a private research institute, and one a commercial company. This will provide research experiences that occur in diverse environments, each with their own institutional emphasis. 3) Students will receive academic course credit that will allow them to continue earning credit towards their degrees while conducting their internship research. 4) Development of cell culture courses on the student's campuses to provide them with training prior to entering their internship. 5) Development of a Stem Cell Techniques training course at a Shared Research Laboratory to provide advanced training in embryonic stem cells prior to entering their internship. 6) Development of two general education course modules to educate the broader population in stem cells. 7) Mentorship of students, including academic counseling, preparation for application to advanced programs, and opportunities for presentation of research results. Over the three year period of the grant, we will train 20 undergraduate students and 6 Master's level graduate students. Because of our strong base in the underrepresented Hispanic population, along with other underrepresented minorities, women, and students with disabilities, our Stem Cell Internship program promises to not only provide appropriately qualified graduates in the relevant disciplines, but to provide diversity in these graduates as well. Our goal is to prepare these students for acceptance into an advanced educational program or entry into the stem cell workforce. We are partnering with two local community college campuses to further diversify the pool of internship candidates and to broaden the impact of this program on students in this area of California. A new component in the curriculum at each campus will be to develop courses to allow students to gain both a theoretical and practical background in tissue culture, along with an introduction to stem cell research. For host internship sites, we will send students to stem cell laboratories at three institutions; one is a public research university, one a private research institute, and one a private company. One of our host campuses is a Shared Research Laboratory recipient and will develop a stem cell techniques laboratory course using human embryonic stem cells. All students in our program will take this course prior to their 6-month (undergrad) or 12-month (grad) internship. To educate the broader student population, we will develop modules that discuss stem cells, including the ethics of stem cell research, within two General Education courses. These courses reach approximately 1500 students each year.

Statement of Benefit to California:	The passage of Proposition 71 – Cures for Californians has provided a landmark opportunity to pursue the development of stem cells to provide therapeutic treatments. California will need highly trained technicians in addition to the senior scientists in order to carry out the basic and applied research. Our Bridges to Stem Cell Research proposal will assist in meeting the goal of developing a well trained and diverse workforce. Because of our strong base in the underrepresented Hispanic population, along with other underrepresented minorities, women, and students with disabilities, our Stem Cell Internship program promises to not only provide appropriately qualified graduates in the relevant disciplines, but to provide diversity in these graduates as well. To educate the broader student population, we will develop modules that discuss stem cells, including the ethics of stem cell research, within two General Education courses. Our Stem Cell Internship program will have 7 components: 1) Partnership with two local community colleges to diversify the potential population of interns, 2) Internships at three host institutions, one a public research university, one a private research institute, and one a commercial company. This will provide research experiences that occur in diverse environments, each with their own institutional emphasis. 3) Students will receive academic course credit that will allow them to continue earning credit towards their degrees while conducting their internship research. 4) Development of cell culture courses on the student's campuses to provide them with training prior to entering their internship. 5) Development of a Stem Cell Techniques training course at a Shared Research Laboratory to provide advanced training in embryonic stem cells prior to entering their internship. 6) Development of two general education course modules to educate the broader population in stem cells. 7) Mentorship of students, including academic counseling, preparation for application to advanced programs, and opportunities for presentation of research results. Over the three year period of the grant, we will train 20 undergraduate students and 6 Master's level graduate students. Our goal is to prepare these students for acceptance into an advanced educational program or entry into the stem cell workforce.